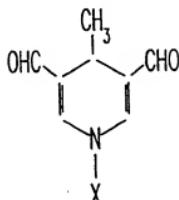


What is claimed is:

1. A specific immune-enhancing factor comprising: a malondialdehyde-acetaldehyde adduct having the following formula:



wherein X is an antigen containing an amino group; and R is selected from the group consisting of a lower C<sub>1</sub> to C<sub>6</sub> alkyl group, benzyl, aryl and hydrogen.

2. The factor according to claim 1 wherein R is methyl.

3. The factor according to claim 1 wherein said antigen is selected from the group consisting of a carbohydrate, a DNA molecule, a protein, a peptide, and a lipid.

4. The factor of claim 1 wherein said antigen is of an animal origin.

5. The factor of claim 1 wherein said antigen is of an environmental origin.

6. The factor according to claim 1 which has an excitation frequency of about 398 nanometers and an absorbance of about 460 nanometers.

7. The factor of claim 1 wherein said antigen is of human origin.

8. The factor according to claim 1 wherein the antigen is selected from the group consisting of bovine serum albumin, human interferon, hemoglobin and human serum albumin.

35 9. A method for stimulating the immunogenicity of an antigen comprising: contacting said antigen with malondialdehyde and acetaldehyde so that a

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malondialdehyde acetaldehyde adduct is formed, and introducing said malondialdehyde acetaldehyde adduct to the immune system of an animal.

10. The method of claim 9 wherein said antigen is introduced for

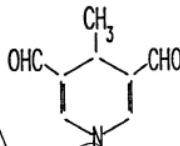
5 vaccination purposes.

11. The method of claim 9 wherein said antigen is introduced for the production of antibody response.

10 12. The method of claim 11 further comprising the step of: detecting antigen/antibody complexes found by the immune system of said animal.

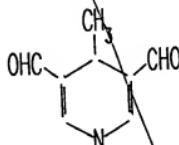
15 13. The method of claim 12 wherein said detecting is by fluorescence detection.

20 14. The method of claim 9 wherein said malondialdehyde acetaldehyde adduct has the following formula:



25 25 the formula wherein X is an antigen containing an amino group and R is selected from the group consisting of a C<sub>1</sub> to C<sub>6</sub> alkyl group, benzyl, aryl and hydrogen.

30 15. A specific immune enhancing factor having the following formula:

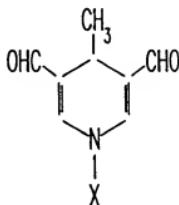


35 35 wherein R is selected from the group consisting of a C<sub>1</sub> to C<sub>6</sub> alkyl group, benzyl, aryl and hydrogen.

16. A malondialdehyde acetaldehyde adduct formed by the process of: contacting an antigen with malondialdehyde and acetaldehyde so that an adduct is formed.

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17. The method of claim 15 wherein said adduct has the following formula:



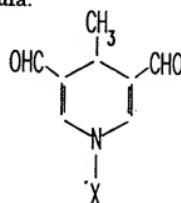
15 Wherein R is a C<sub>1</sub> to about C<sub>6</sub> alkyl, H, Benzyl or aryl group and X is a peptide or protein present in a biological sample.

18. A method for visualizing antigen/antibody interactions comprising: labeling said antigen or said antibody by forming a malondialdehyde acetaldehyde adduct with said antigen or antibody and thereafter detecting the presence of said antigen or antibody by fluorescence detection.

20 19. The method of claim 18 wherein said detection is by FACScan.

25 20. The method of claim 18 wherein said detection is by measuring absorbance at about 460 nanometers with an excitation frequency of 398 nanometers.

21. The method of claim 18 wherein said malondialdehyde acetaldehyde 30 adduct has the following formula:



wherein X is the material to be visualized and R is a C<sub>1</sub> to about C<sub>6</sub> alkyl, H, Benzyl or aryl group.

22. The method of claim 21 wherein antigen is replaced with protein or  
5 peptide.

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